$$\rho_p = \frac{tanh(\beta\eta) + tanh(\beta(\rho_f - \eta))}{tanh(\beta\eta) + tanh(\beta(1-\eta))}$$

$$\nabla\rho_p = \frac{\partial\rho_p}{\partial x}\,\overrightarrow{e_x} + \frac{\partial\rho_p}{\partial y}\,\overrightarrow{e_y}$$

$$\nabla\rho_p = \frac{\partial\rho_p}{\partial\rho_f}\cdot\frac{\partial\rho_f}{\partial x}\,\overrightarrow{e_x} + \frac{\partial\rho_p}{\partial\rho_f}\cdot\frac{\partial\rho_f}{\partial y}\,\overrightarrow{e_y} \longrightarrow \nabla\rho_p = \frac{\partial\rho_p}{\partial\rho_f}\cdot\left(\frac{\partial\rho_f}{\partial x}\,\overrightarrow{e_x} + \frac{\partial\rho_f}{\partial y}\,\overrightarrow{e_y}\right) \longrightarrow \nabla\rho_p = \frac{\partial\rho_p}{\partial\rho_f}\cdot\nabla\rho_f$$

$$-\nabla\cdot\left(k(\rho_p)\nabla T\right) + \left|\nabla\rho_p\right|h(T - T_\infty) + \mathrm{p(x)} = 0$$

$$-\nabla\cdot\left(k(\rho_p)\nabla T\right) + \left|\frac{\partial\rho_p}{\partial\rho_f}\cdot\nabla\rho_f\right|h(T - T_\infty) + \mathrm{p(x)} = 0$$

$$\left(-\nabla\cdot\left(k(\rho_p)\nabla T\right) + \frac{\partial\rho_p}{\partial\rho_f}\cdot\left|\nabla\rho_f\right|h(T - T_\infty) + \mathrm{p(x)}\right) = 0$$

$$\frac{\partial\rho_p}{\partial\rho_f}\cdot\left|\nabla\rho_f\right|h(T - T_\infty)\tilde{T}$$

m^{-1} $\quad \mathrm{W}\cdot\mathrm{m}^{-2}\cdot\mathrm{K}^{-1}$ $\quad \mathrm{K}$ $\quad \mathrm{K}$

ajout de $\tilde{T}$ dans l'implémentation ⟶ Fonction ^ inconnue car dimensionnement incorrecte

retrait de $\tilde{T}$ dans l'implémentation ⟶ Résultat correcte ou pas ???

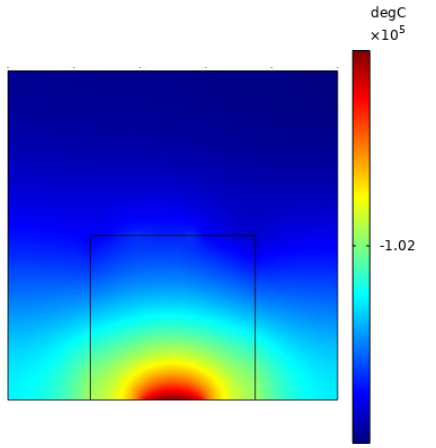
Distribution température

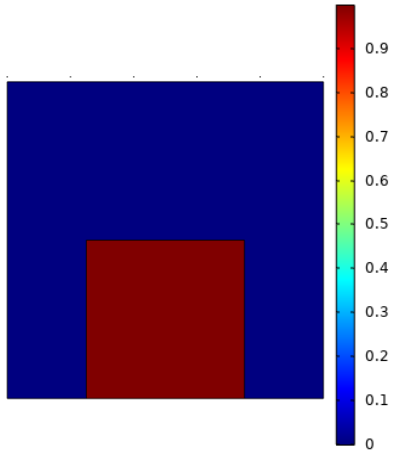
dtopo1.theta

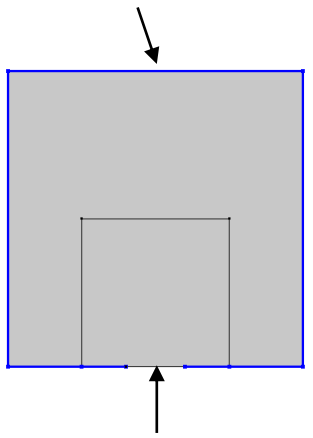
Condition limites

Sans la fonction $\tilde{T}$

Adiabatique + flux + flux convectif







Adiabatique + température nulle + flux convectif